DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Agency for Toxic Substances
and Disease Registry
Atlanta GA 30333

DATE: February 25, 1991

TO: Beverly Kush, Remedial Enforcement Response Branch

FROM: Louise Fabinski, Regional Representative - ATSDR

SUBJECT: NL Taracorp

The Agency for Toxic Substances and Disease Registry (ATSDR) has funded blood lead and cadmium exposure studies in Illinois, Kansas and Missouri. These studies are scheduled to begin approximately June 1, 1991. Human biological sampling and analyses are funded under these agreements.

Environmental sampling and analyses are also needed. These include dust, hand wipe, water, vegetable and soil samples.

I have attached a memo dated February 19, 1991 from Tom Long of the Illinois Department of Public Health (IDPH), Division of Environmental Health. This group will conduct the Illinois study. The memo outlines the types, number, and cost of the necessary environmental sampling.

Tom Long (IDPH), Dr. Fred Stallings and Louise Fabinski of ATSDR discussed the potential of USEPA funding the environmental portion of this project with you and Brad Bradley on December 20, 1990. In order to begin the study June 1, 1991, funding decisions will have to be made quickly. A final study protocol should be available the week of March 4, 1991. We would be happy to meet with you and your management to discuss this further.

cc: Brad Bradley, USEPA
Fred Stallings, ATSDR

ILLINOIS DEPARTMENT OF
PUBLIC HEALTH
A Healthier Today For A Better Tomorrow

John R. Lumpkin, M.D., Director

MEMORANDUM

To: Louise Fabinski, ATSDR - Chicago

From: Tom Long, Toxicology Program

Date: February 19, 1991

Re: Taracorp Project - Estimated Environmental Sampling Costs - #411028801H

As per your request, I have assembled some projected costs associated with the sampling and analysis of various environmental media as required by this project. I apologize for the delay, but it was necessary for us to determine the minimum number of samples which would still provide us with sufficient statistical power to make this a scientifically credible study. I enclose for your information some preliminary calculations pertaining to this derivation, but would ask these not be shared outside your agency as they are still "draft."

As indicated by this information a minimum of 1000 households (an average of 3 people per household) need to be sampled (800 cases and 200 controls) to gain sufficient statistical power to make meaningful comparisons within the various groups and strata making up this study. This is in close approximation to Fred's estimate of 800 households.

The study calls for the following environmental sampling for lead and cadmium to be conducted at each home:

a) 4 Composite Dust Samples (floor, window sills, exterior front and exterior back)

b) 1 Hand Wipe (dislodgeable dusts) per person sampled (average = 3)

c) 2 Water Samples (first draw and fully flushed)

d) 2 Surface Soil Samples (composite front and back yards)

Additionally, certain case and control households were to have garden crops and soil analyzed. It is anticipated that this would involve no more than 250 households (200 cases and 50 controls) and include:

e) 1 Composite Soil Sample

f) 3 Vegetable Samples (root, fruit, and leafy type)

Finally, it was suggested at our last meeting that the dust and detritus from vacuum cleaner bags be analyzed. This can be done relatively simply and I have included it in this estimate for 250 households (200 case and 50 controls).

g) 1 Vacuum cleaner dust

Of the aforementioned samples, USEPA has indicated that they are planning numerous soil samples in each yard in order to determine the nature and extent of the remedial action. It was suggested that those samples could serve as this study's two surface soil samples (d). Assuming that they are shallow enough samples (upper 3 inches or less), this may be workable and this estimate proceeds on that assumption. However, it is important to be certain that USEPA's sampling plans and this study's sampling needs are compatible before proceeding beyond this stage.

Finally, the cost estimates are based on contract laboratory quote for batch work at $20 per sample (regardless of media). Since the original number of samples is reduced by the use of USEPA's surface soil samples, this estimate may no longer be valid. The addition of cadmium as an analyte may also affect the price. I will, however, utilize the original estimate of $20 per sample as long as the aforementioned caveats are understood.

The budget for environmental sampling and analysis is as follows:

a)	Composite Dust Samples (4 per household/1000 households @ $20 per sample)	$80,000
b)	Hand Wipe (3 per household/1000 households @ $20 per sample)	$60,000
c)	Water Samples (2 per household/1000 households @ $20 per sample)	$40,000
d)	Surface Soil Samples (2 per household/1000 households @ $20 per sample)	$40,000
e)	Garden Soil (1 per household/250 households @ $20 per samples)	$ 5,000
f)	Vegetable Samples (3 per household/250 households @ $20 per samples)	$15,000
g)	Vacuum Bag Dust (1 per household/250 households @ $20 per sample)	$ 5,000
	Subtotal	$245,000
	Less cost absorbed by USEPA's soil sampling	-$40,000
	Total Analytical Costs	$205,000

Some minor costs associated with sampling supplies and devices also need to be added. These include the following:

3-HSV surface dust samples @ $3000 each (these will have to be purchased since the single manufacturer neither leases or rents)	$ 9,000
3-XRF Paint Analyzers $75/day for 60 days (if CDC will lend or donate these machines to us, this cost would be eliminated)	$ 13,500
Sampling supplies (bags, gloves, spatula, filters, etc.)	$ 6,000
Total Miscellaneous Sampling Costs	$ 28,500

The total estimated costs of this project will be in the neighborhood of $233,500. This compares favorably with the original estimate of $202,000. I am checking to determine if the difference in number of samples and the addition of cadmium will significantly affect the analytical costs, but I feel that the cost will not vary significantly from the aforementioned figure. Please call if there are any questions or if further information is required.

cc: Fred Stallings, ATSDR - Atlanta
David Schaeffer, University of Illinois
Marie Cote, University of Illinois
Central Office File

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